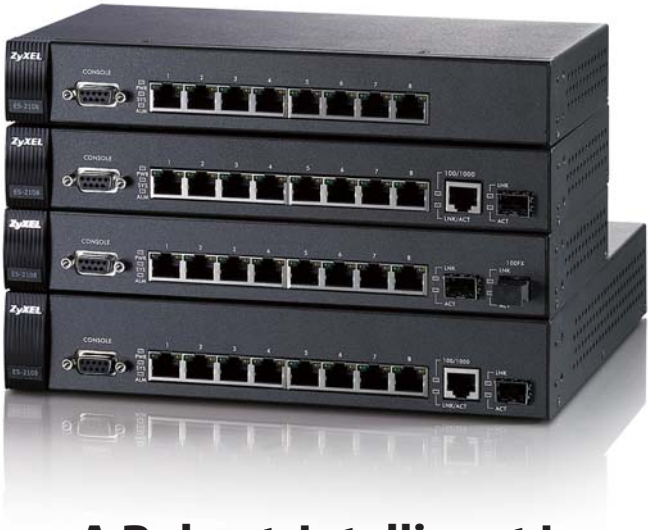
ZyXEL



A Robust, Intelligent Layer 2 Ethernet Switch for Small Workgroups

- 5.6Gbps Non-Blocking Switching Architecture
- iStacking™ Clustering Technology, One IP Management for 24 Devices
- iManage™ Easy Management Tools (GUI, CLI & Text-based Configuration for Scripting)
- 802.1x Port-based Authentication for Central Management
- Port-based and 802.1Q Tagged VLAN (4K PVID)
- MAC Filtering, MAC Freeze, Intrusion Lock and Specific MAC Forwarding

8-port Managed Layer 2 Fast Ethernet Switch

ES-2108 SERIES

Benefits

Powerful Compact Design for Small Workgroup Environment

The ES-2108 Managed Layer 2 Fast Ethernet Switch Series is designed for small workgroup environment. Thanks to its compact 8-port design and selections of uplink options (1000Base-T, SFP, 100FX), the ES-2108 Series offers functionality and connectivity that best fit small-workgroup needs. In addition, the wall-mountable design adds flexibility of deployment.

The ES-2108 Series comes in four models: ES-2108, ES-2108-G, ES-2108-LC and ES-2108PWR. All switches come with a non-blocking 5.6 Gbps switching architecture for wire-speed transmission. The ES-2108 has 8 10/100Base-T ports without the uplink interface. The ES-2108-G comes with one dual personality Gigabit uplink port. The ES-2108-LC comes with independent uplink interface of one 100FX port and one SFP slot to ease deployment of fiber connectivity with future-proof hardware. In addition to having all the features in ES-2108-G, ES-2108PWR includes the PoE (Power over Ethernet) to supply power to devices connected to the 8 10/100Base-T ports simultaneously.

Excellent Network Management Capability

The ZyXEL ES-2108 Series includes rich management tools to streamline your management effort. With ZyXEL's exclusive iStacking™ technology, you can manage up to 24 ZyXEL switches through one IP address. In addition, through iManage™ that includes Web-GUI, CLI (Command Line Interface) and text-based configuration, network managers can select the one management interface they are most comfortable with and get the job done efficiently. Moreover, you can protect your management session with SSHv1/v2 authentication and SSL encryption features. With its comprehensive features, ZyXEL's ES-2108 Series is your first choice for cost-effective networking.

Security on the Network Edge

Support of IEEE 802.1x authentication allows centralized user management and added security protection. The ES-2108 Series comes with complete VLAN functions (IEEE 802.1Q VLAN tagging and port-based VLAN) to secure your network. With 4K PVID, you have complete freedom in VLAN management. The ES-2108 Series also includes device-aware security features (MAC address, like MAC filtering, MAC freezing and MAC forwarding) to effectively prevent access of unidentified devices. All these features offer extra protection on the network edge.

Traffic Prioritization for Multi-Services

With 4 priority queues and WRR scheduling mechanism, ZyXEL's ES-2108 Series is able to perform traffic prioritizing for multi-service applications. You can also customize DSCP settings to provide an end-to-end QoS environment. In addition, you can enable IGMP snooping to optimize service quality for IP multicasting applications. For bandwidth management, the ES-2108 Series supports bandwidth increment of 64Kbps to give different bandwidth allocations.

Specifications

Standard Compliance

- IEEE 802.3 10Base-T Ethernet
- IEEE 802.3u 100Base-Tx Ethernet
- IEEE 802.u 100FX (ES-2108-LC)
- IEEE 802.3ab 1000Base-T Ethernet (ES-2108-G/ES-2108PWR/ES-2108-LC)
- IEEE 802.3z 1000Base-X Ethernet (ES-2108-G/ES-2108PWR/ES-2108-LC)
- IEEE 802.3af Power over Ethernet (ES-2108PWR)
- IEEE 802.3x Flow control
- IEEE 802.1d Spanning tree protocol
- IEEE 802.1w Rapid Spanning tree protocol
- IEEE 802.1p Class of service, priority protocols
- IEEE 802.1Q VLAN tagging
- IEEE 802.1x Port Authentication
- IEEE 802.3ad LACP aggregation

Performance

- 5.6Gbps non-blocking switching fabric
- Flexible design for Gigabit copper and Gigabit fiber connectivity
- ES-2108 Switching Forwarding Rate 1.2Mpps (148800pps/100Base-TX)
- ES-2108-G/ES-2108PWR Switching Forwarding Rate 2.7Mpps (1488000pps/1000Base-T/ 1000Base-X, 148800pps/100Base-TX)
- ES-2108-LC Switching Forwarding Rate 2.9Mpps (1488000pps/1000Base-T/ 1000Base-X, 148800pps/100Base-TX/100FX)
- Wire-speed performance

MAC

- 8K MAC entries

Traffic Management and QoS

- IEEE 802.1p with 4 priority queues per port for different types of traffic
- DSCP
- GVRP, automatic VLAN member registration
- IGMP snooping
- Congestion control on all ports
- Broadcast Storm Control
- Rate Limiting

Resilient Link and Link Aggregation

- IEEE 802.1Q tag-based and port-based VLAN
- IEEE 802.3ad compliant
- LACP, static and dynamic link aggregation
- Up to 2 aggregation groups, per group support up to 4 ports (FE only)
- IEEE802.1w Rapid Spanning Tree Protocol (RSTP) provides rapid convergence of spanning tree independent of spanning-tree timer

Security and Authentication

- MAC filtering per port secures access to each port
- Specific MAC forwarding per port: only specified MAC addresses can access the network (port lock)
- 802.1x port-based authentication, eventing unauthorized users from accessing the network
- 256 static VLAN, up to 4K dynamic VLAN
- Full range 4K PVID
- MAC Freeze
- Intrusion Lock

Network Administration

- User name/password required for web/telnet/local console administrators
- Two security levels by specific SNMP read/write community

Network Management

- ZyXEL iStacking™, up to 24 switches can be managed by one IP address
- Web-based management
- Telnet CLI
- SNMP v1v2c
- RS-232c local console
- DHCP relay
- IP management: static IP or DHCP client
- 4 RMON groups 1, 2, 3, 9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
- Supports Source/Destination/Both port mirroring

Hardware Specifications

- ES-2108: 8 x 10/100Base-T
- ES-2108-G/ES-2108PWR: 8 x 10/100Base-T and one dual personality Gigabit interface (RJ-45 or SFP open slot)
- ES-2108-LC: 8 x 10/100Base-T, 1 x100 FX (MMF LC type 2000m) and one SFP Gigabit open slot
- Support auto-negotiation
- Support auto MDI/MDI-X,
- 1 D-Sub 9-pin Female (DCE) Console port

Physical Specifications

ES-2108/ES-2108-G/ES-2108-LC

- Dimensions: 250 (W) x 133 (D) x 37 (H) mm
- Weight: 1.2 Kg

ES-2108PWR

- Dimensions: 250 (W) x 235 (D) x 44.5 (H) mm
- Weight: 2.4 Kg

Power Requirements

ES-2108/ES-2108-G/ES-2108-LC

- Input voltage of AC: 100-240VAC, 50/60Hz
- Max power rating of AC: 10 Watt

ES-2108PWR

- Input voltage of AC: 100-240VAC, 50/60Hz
- Max power rating of AC: 200 Watt

Environmental Specifications

- Operating temperature: 0˚C ~ 45˚C
- Storage temperature: -25˚C ~ 70˚C
- Operating humidity: 10% ~ 90%, non-condensing

Product Description

ES-2108

8-port Managed Layer 2 Fast Ethernet Switch

ES-2108-G

8-port Managed Layer 2 Fast Ethernet Switch,with Dual-personality Gigabit uplink

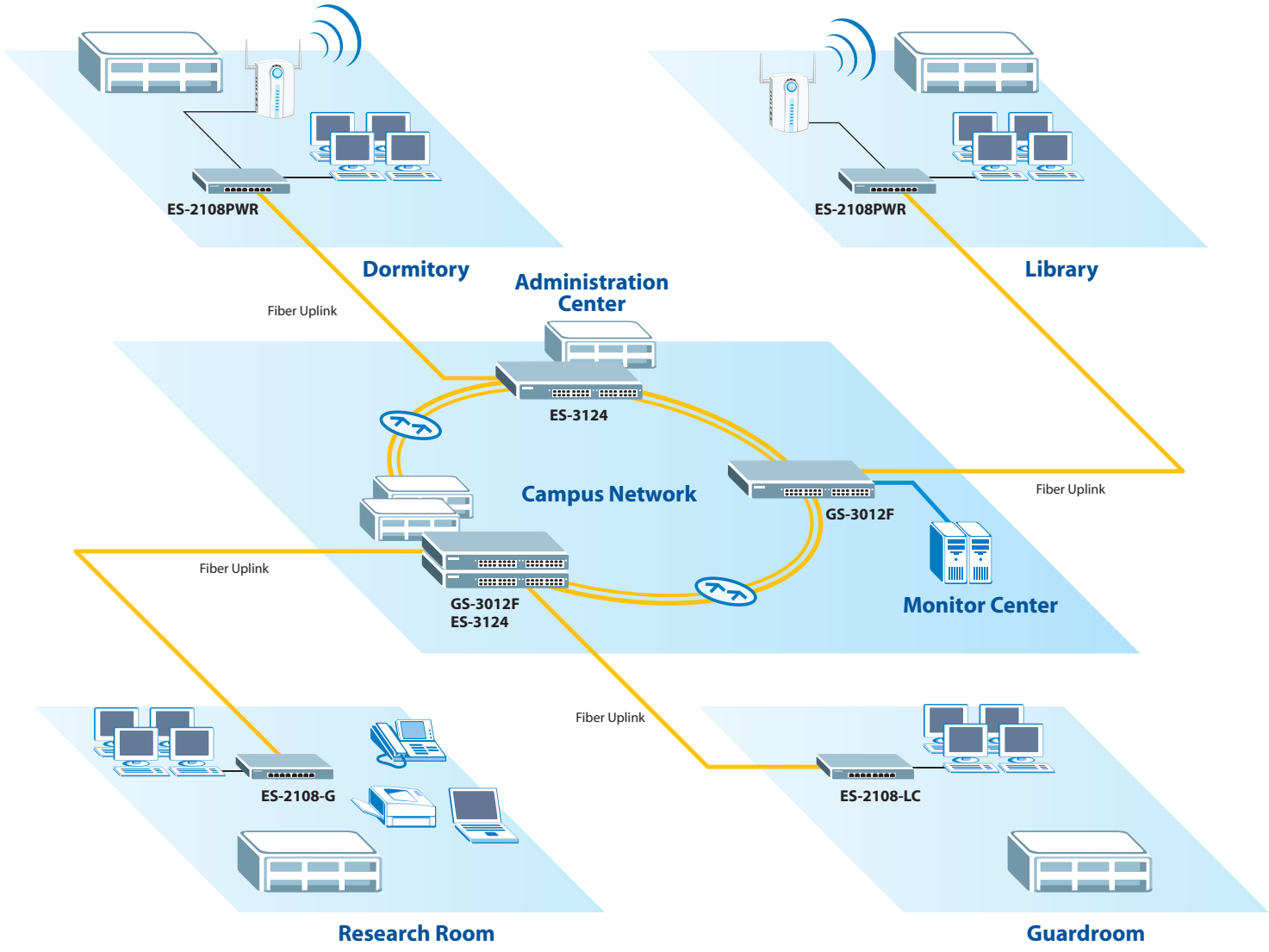
ES-2108-LC

8-port Managed Layer 2 Fast Ethernet Switch, with 100FX uplink

ES-2108PWR

8-port Managed Layer 2 Fast Ethernet Switch, with Power over Ethernet (PoE) support

Application Diagram



Operational Information

Transceiver (Optional)

Model Name	Optical Receiver Sensitivity	Wavelength	Connector	Transmission Distance vs. Fiber Cable Specification			Operational Ranges	
				62.5um Multi-Mode Fiber	50um Multi-Mode Fiber	9/10um Single-Mode Fiber	Supply Voltage	Max Current
SFP-SX	-17 dBm	850 nm	LC	220 m	550 m	-	3.15 ~ 3.45 V	300 mA
SFP-LX-10	-20 dBm	1310 nm	LC	550 m	550 m	10 km	3.15 ~ 3.45 V	300 mA
SFP-LHX1310-40	-23 dBm	1310 nm	LC	-	-	40 km	3.15 ~ 3.45 V	300 mA
SFP-ZX-80	-24 dBm	1550 nm	LC	-	-	80 km	3.15 ~ 3.45 V	300 mA

For more product information, visit us on the web www.ZyXEL.com

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